



**Patent Office
Canberra**

I, JONNE YABSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2002950447 for a patent by ERIC WENSING as filed on 30 July 2002.

WITNESS my hand this
Nineteenth day of September 2003

A handwritten signature in cursive script that reads "J R Yabsley".

JONNE YABSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES



This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

Air Powered Low impact Pot Holeing Tool
Eric Wensing

Complete Specifications
Innovation Patent
Revision 10 /



Air Powered Low Impact Pot Holeing Tool
(Here after known as "The Tool")

The following statement is a full description of this invention, including the best know method of performing it known to me

During my experience in underground construction works it has become apparent to me that there is a need to develop a method of carrying out low impact pot holeing that has minimal impact to the surrounding area, is quick, controlled, does not require water and respectively sillage removal and most importantly will not damage existing services in the ground.

During development it was also envisaged that this same apparatus could be used for all types of pot holeing not only for inspection purposes for such items as to visually inspect burred services, tree roots or buried rock, but could also be used to dig holes for fencing, planting trees or for any purpose requiring a neat hole dug quickly without mechanical means and with minimal disturbance to the surrounding area.

The current method of pot holeing used, is by use of hand held implements such as pick, shovel and crow bar, but this method is labour intensive, often disturbs a larger area than needed and often results in damage to services.

Air Powered Low impact Pot Holeing Tool
Eric Wensing

Description

The design of The Tool is a 100mm (other sizes can be used) diameter steel tube at a length of 1500mm (again length is optional) with a 75% bend on the exhaust end and a blunt serration on the excavating end. The steel tube also has two steel handles just below the bend at the exhaust end and has a ½ in steel pipe that enters the steel tube at 90° at the same height of the handles.

The ½ pipe is installed against the inside wall of the 100mm tube running down to 150mm from the serrated end where the pipe then diverts so that the end of the ½ pipe which is threaded is located approximately 30mm from the end of the 100mm tube, and is located in the centre of the Tube.

On the end of the ½ tube at the serrated end of the tube, a nozzle, which has a 4mm hole in the centre of the nozzle and 3 other 2mm, holes which are at 92° to the 4mm hole. and lock nut is fitted to secure the nozzle at the correct height.. At the other end of the ½ pipe, which is also threaded, is an air fitting where an air hose from an air compressor is connected.

On the end of the bend on the 100mm tube, is a thread where a cam lock can be fitted and a vacuum hose attached. This hose is then run to a drum, which is to collect excavated material. For the excavation of heavier or wet material a vacuum pump can be fitted to a filtered out let of the drum.

Air Powered Low impact Pot Holeing Tool
Eric Wensing

Operation

The Tool is operated by way of standing the 100mm tube with the serrated end to the ground at the point to be excavated, preferably at 90° to the ground. The tube is to be rotated back and fourth through approximately 60° on the axis of the centre of the tube, while air pressure of 100 PSI or more is turned on to the ½ in pipe.

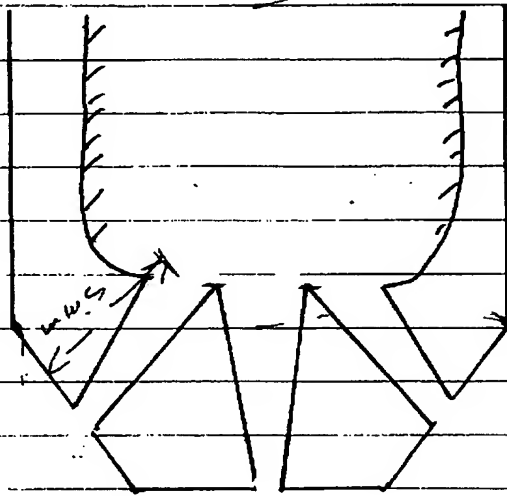
As the air pressure is forced through the nozzle the air excavates the ground. The soil, which is excavated, is broken down by the air pressure and is evacuated out through the top of the 100mm tube by the escaping air. For heavier soil conditions the use of a vacuum pump can be used to assist in the excavation of soil. During the excavation the tube is rotated back and fourth through 60°, so to assist in the excavation and help located any solid object in the ground.

There are a number of nozzles with varying configurations pending on the soil structure to be excavated.

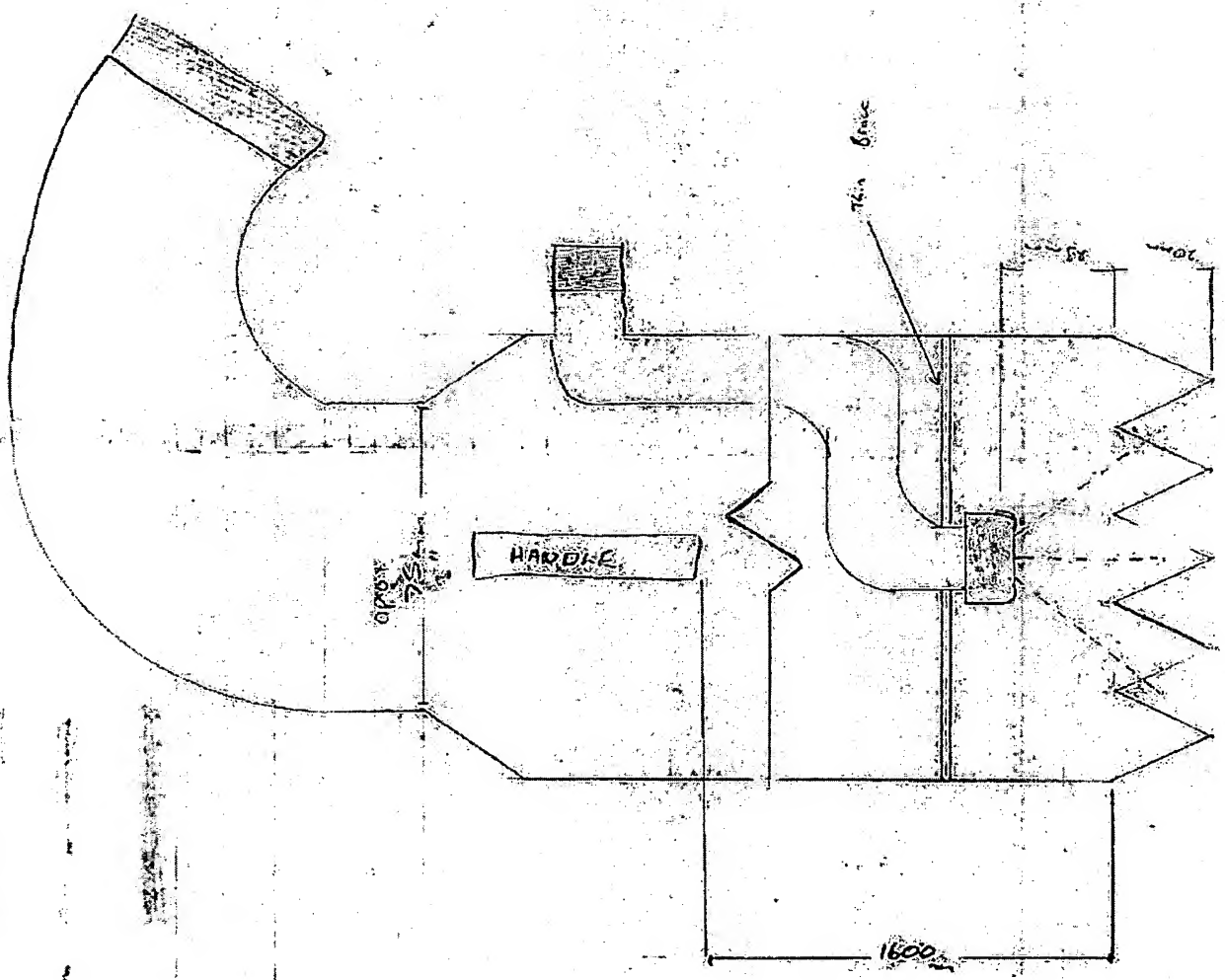
Air Powered Low impact Pot Holeing Tool
Eric Wensing

The claims defining The Tool is as follows,

1. The tool is a steel tube fabricated with a bend at one end, and a serration at the other end.
2. The tool as in claim 1, has a ½ inch pipe that enters the tube near the top, and extends down the inside of the tube to the centre of the serrated end where it directs compressed air through a nozzle to the ground.
3. The Tool as in claim 1 & 2 has 2 handles near the end with the bend and has provisions for the attachment of a hose at the end of the bend.



Thread for 3" can lock



100" 6"

